

NRO REVIEW COMPLETED

25 March 1963

MEMORANDUM FOR THE RECORD

SUBJECT : Meeting held on Friday, 22 March, on
Reconnaissance Satellite Reliability

PRESENT : General Robert Greer
Colonel Roy H. Worthington
[redacted]
General Marshall Carter
Dr. Herbert Scoville, Jr.

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1. As a starting point for the discussion, Col. Worthington and [redacted] briefed on the status of the investigations relative to the failure of the recent LANYARD event. Telemetry fairly clearly traced the difficulty to a short in the J box which occurred about 2 seconds after booster separation. The cause of the short is, however, much more uncertain. It was postulated by the briefers that this could have occurred from a foreign object inadvertently left in the J box which has to be opened after the final testing is complete. The short occurred almost immediately after the first attainment of a zero G condition which might explain why it had not occurred sooner. Neither Gen. Greer nor I felt this is a very convincing explanation.

2. Another possibility was that a piece of metal support in the J box had broken off to cause the short. Gen. Greer pointed out the timing of the difficulty corresponded almost exactly with an acceleration blip resulting from the blowing off of the camera doors. It is possible that the force produced by this action could have been responsible for the trouble. This would be particularly significant since the camera doors for the L event are larger and the force involved consequently greater than in the case of the standard CORONA/MURAL package. This is the only indication that the trouble might have been peculiar to L as opposed to the standard proven reliable situation. Every other record clearly supported the perfect operation of the TAT and demonstrated no force which had not been carefully pre-tested as being acceptable to the AGENA. In this connection

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Gen. Greer indicated that it was not possible to simulate the very strong, short duration force occurring at the time of this separation.

3. In summary, there is still a very major uncertainty as to the precise cause of the failure in the minds of all the experts. However, the experts were meeting essentially continuously reviewing all the records and attempting to reach a better understanding of the situation. A special board was convened independent of the people responsible for the program to review everything connected with this failure. Gen. Greer did not believe that this board should be a continuing board since he has found it more satisfactory to bring in outside people to oversee such an investigation and continuing boards rapidly become parts of the organization.

4. When the difficulty from the L shot was traced to the J box, the J box for the next CORONA mission (1160) was removed and subjected to all types of vibration tests to determine if a similar short could be produced in it. The same procedure was attempted for other J boxes on down the line. No such condition could be produced, and therefore the J box has been returned to 1160, and full qualification of the vehicle was under way with the hope of a launch at the earliest by 30 March.

5. Every aspect of the forthcoming event is being checked by the responsible people with great care. Gen. Greer considered that quality control was a fulltime responsibility of his people, and in turn their responsibility to insure hardware contractor supervision. He did not believe that this was a function of the special board constituted to review a specific failure although the findings of such a board might have influence on the continuing actions of the responsible officers. They were redoubling their efforts to insure that optimum quality control is being maintained, and he indicated he was preparing a detailed list of all of the actions which he had taken, or was planning to take, in order to prevent future failures. This list will be forwarded to Washington when prepared.

6. One special problem relative to the AGENA-D surfaced as a result of the discussion. Because this vehicle was developed with the objective of high standards of reliability and reproducibility, the contract was written in such a way that after the first 12 AGENAs, no changes would be made and the contractor would furnish a standard piece of hardware which meets model specifications. While having

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some good features. this would present difficulties in making changes which might be desired to improve the over-all performance.

7. I feel that the meeting was very useful in that it achieved a better understanding of the details of the problem. Both General Carter and I were very much impressed with the seriousness which General Greer is attaching to the situation.

Typed Herbert Scoville, Jr.
HERBERT SCOVILLE, JR.
Deputy Director
(Research)

cc: DNRO

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